

COPY

Ship JAN. 31

Work Order ID 150478

Wednesday, August 24, 2016 12:01:58 PM

150478

Page 1

Item ID: D350-591-122

Accept

N9000040100

Setup Start

NS1

Revision ID:

Item Name: Heli-Access-Step™ RH - High Gear, Short Step, Float Compatible

Stop *NS2*

Start Date: 8/29/2016 Start Qty: 4.00 *4*

Cust Item ID:

Required Date: 9/9/2016 Req'd Qty: 4.00 *4*

Customer:

Reference:

Approvals: Process Plan: ^{DAS} 21 Date: AUG 30 2016

Tooling:

Date:

Run Start

NR1

QC: ⁹⁻⁸⁹

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D2351-042	E
IIN-D350-591	H

JAN 08 2017
DAS
9-89

100

Document Control

0.00

100

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile and type labels as per PPP D350-591-122 CHG005

4 DAS
27
9-89

JAN 31 2017

110

0.00

110

Large Fab

Large Fab

Memo

0.26

Large Fab

1-Cut D2244-116 extrusion to 55.32" long as per Dwg D2351 using cutting table setup DT8185-G
2-Drill extrusion per Dwg D2351 using Jig DT8230 for rivets.

4 DO 2017/01/11
4 CC 17-1-24

B150478 (V1RH)

Work Order ID 150478

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150478

Page 2

Item ID: D350-591-122

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Heli-Access-Step™ RH - High Gear, Short Step, Float Compatible

Stop

NS2

Start Date: 8/29/2016 Start Qty: 4.00

4

Cust Item ID:

Required Date: 9/9/2016 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

NR1

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130		0.00							
130	BENDING MACHINE - SKIDTUBES								
CNC Bend 1	Memo	0.07							
CNC Delta 100 Bender	Bend as per dwg D2351-042 using cnc bender and Folio FT 012. Use bend prog. D2351-042.								
140		0.00							
140	QC5- Inspect part completeness to step on W/O								
QC	Memo	0.01							
Quality Control									
150		0.00							
150	Large Fab								
Large Fab	Memo	0.18							
Large Fab	1-Bevel Fwd and Aft end for welding 2-Weld Aft End Bracket per QSI 004 & Dwg D2351 using Welding Jig DT8033 A/RAluminum Rod 3-Do not Grind Flush								

DP 17-1-16

⑨ 17-0.31

DAS
9
9-89

4x CC 17-1-26

← 4 DC 2017/01/28

Work Order ID 150478

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Page 3

Item ID: D350-591-122

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Heli-Access-Step™ RH - High Gear, Short Step, Float Compatible

Stop

NS2

Start Date: 8/29/2016 Start Qty: 4.00

4

Cust Item ID:

Required Date: 9/9/2016 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

NR1

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 *160* QC Quality Control	QC9- Inspect visual per QSI004- Fusion Welds Memo	0.00 0.00				(4)	17-01-25		DAS 9 9-89
170 *170* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.01				(4)	17-01-25		DAS 9 9-89
180 *180* HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.07				(14)		207/01/25	BFB

Work Order ID 150478

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Page 4

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NS1

Revision ID:

Item Name: Heli-Access-Step™ RH - High Gear, Short Step, Float Compatible

Stop ***NS2***

Start Date: 8/29/2016 Start Qty: 4.00 ***4***

Cust Item ID:

Required Date: 9/9/2016 Req'd Qty: 4.00 ***4***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	QC7-Inspect Chemical Conversion Coat	0.00							
190									
QC	Memo	0.00							
Quality Control									
220	Large Fab	0.00							
220									
Large Fab	Memo	0.29							
Large Fab									
	1-Rivet Leg Assembly as per Dwg D2351								
	2-Weld Fwd End Plate per QSI 004 & Dwg D2351								
	A/RAluminum Rod B134826								
	3-Grind end plate flush.								
225	QC5- Inspect part completeness to step on W/O	0.00							
225									
QC	Memo	0.01							
Quality Control									

DAS
9
9-89

④ 17-01-25

4x CC 17-1-25

4x DG 2017/01/25

DAS
9
9-89

④ 17-01-25

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Item ID: D350-591-122

Accept

N9000040100

Setup Start

NS1

Revision ID:

Item Name: Heli-Access-Step™ RH - High Gear, Short Step, Float Compatible

Stop ***NS2***

Start Date: 8/29/2016 Start Qty: 4.00

4

Cust Item ID:

Required Date: 9/9/2016 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
230	QC10- Inspect visual per QSI004- ground welds	0.00							
230									
QC	Memo	0.00				(4)	17-01-26		DAS 9 9-89
Quality Control									
250	Chemical Conversion Coat per QSI005 4.1	0.00							
250									
HandFinish	Memo	0.13				(x4)		2017-01-26	
Hand Finishing								BEIB.	
260	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
260									
Powdercoat	Memo	0.08							
Powder Coating	START TIME: 9:00 OVEN TEMPERATURE: 320° FINISH TIME: 9:30							17-01-26	DAS 34 9-89

Work Order ID 150478

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Item ID: D350-591-122

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NS1

Revision ID:

Item Name: Heli-Access-Step™ RH - High Gear, Short Step, Float Compatible

Stop

NS2

Start Date: 8/29/2016 Start Qty: 4.00

4

Cust Item ID:

Required Date: 9/9/2016 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run

Start

NR1

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270	Wing Walk as per dwg QSI005 4.4 Batch	11/26/16 0.00							
270									
HandFinish	Memo	0.17							
Hand Finishing									
280	QC3- Inspect Part Finish	0.00							
280									
QC	Memo	0.01							
Quality Control									
290	Pick Kit	0.00							
290									
Packaging	Memo	0.01							
Packaging									

4 x 1 of 10/02/16

① 11-01-30

DAS
9
9-89

4 JAN 11 2017 DAS 28 9-89

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Item ID: D350-591-122

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Heli-Access-Step™ RH - High Gear, Short Step, Float Compatible

Stop

NS2

Start Date: 8/29/2016 Start Qty: 4.00

4

Cust Item ID:

Required Date: 9/9/2016 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run

Start

NR1

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
300 *300* QC Quality Control	QC4- 100% Inspect kits for completeness Memo	0.00 0.02							
310 *310* Packaging Packaging	Packaging Memo Identify and pack for shipping as per PPP D350-591-122 Location:FG039 x3 1x sold	0.00 0.00							
320 *320* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.07							

4

DAS
27
9-89

JAN 31 2017

4

DAS
27
9-89DAS
28
9-89

JAN 31 2017

DAS
21
9-89

JAN 31 2017

ME
17-1-31

Picklist Print

Wednesday, August 24, 2016 12:01:57 PM

Page 1

Work Order ID: 150478

150478

Parent Item: D350-591-122

D350-591-122

Parent Item Name: Hen-Access-Step™ RH - High Gear, Short Step, Float Compatible

Start Date: 8/29/2016

Required Date: 9/9/2016

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP Rev:E02.10.21Re-format; Incorporated D2351-041 IPPKJ/RF

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

AN3-37A

Purchased

No

290

Each

39.0000

2

8

AN3-37A

Bolt

**

DAS

6

9-89

JAN 1 1 2017

DAS

28

9-89

Location

Loc Qty

Loc Code

FG

10

119086

10

ST347

29

m133694

1

m134180

4

m135135

24

135530

AN4-13A

Purchased

No

290

Each

1,232.000

3

12

AN4-13A

Bolt

**

DAS

6

9-89

JAN 1 1 2017

DAS

28

9-89

Location

Loc Qty

Loc Code

FG

20

122808

20

GA

19

m134634

19

over003

1039

m134943

39

m135464

500

m135470

500

ST343

154

m134852

36

m135390

118

136147

DAS
27
9-89

DAS
27
9-89

Picklist Print

Wednesday, August 24, 2016 12:01:58 PM

Page 2

Work Order ID: 150478

150478

Parent Item: D350-591-122

D350-591-122

Parent Item Name: Hen-Access-Step™ RH - High Gear, Short Step, Float Compatible

Start Date: 8/29/2016

Required Date: 9/9/2016

Start Qty: 4.00

Required Qty: 4.00

D2230-1

Manufactured No

290

Each

104.0000

1

4

D2230-1

Mounting Lug

**

DAS

6

9-89

JAN 11 2017

DAS
27
9-89

Location

Loc Qty

Loc Code

FG

4

84136

4

ST521

100

115306

1

146288

99

133 290

D2230-3

Manufactured No

290

Each

84.0000

1

4

D2230-3

Mounting Lug

**

DAS

6

9-89

JAN 11 2017

DAS
27
9-89

Location

Loc Qty

Loc Code

FG

8

109344

4

89045

4

ST521

2

144487

2

ST525A

74

146287

74

149711

D2244-116

Manufactured No

110

Each

47.0000

0.5

2

D2244-116

STEP EXTRUSION

**

CC Jan 11 2017

Location

Loc Qty

Loc Code

HALL

47

117818

47

WA003

-0.0000368

Picklist Print

Wednesday, August 24, 2016 12:01:58 PM

Page 3

Work Order ID: 150478

150478

Parent Item: D350-591-122

D350-591-122

Parent Item Name: Hen-Access-Step™ RH - High Gear, Short Step, Float Compatible

Start Date: 8/29/2016

Required Date: 9/9/2016

Start Qty: 4.00

Required Qty: 4.00

D2582

Manufactured No

Each 1.0000

4

D2582

Hi-Skid Step Leg Assembly

**

CC 17-1-24
3x 150245
1x 152238

Location

Loc Qty

Loc Code

WA003

1

145720

1

D2673-34

Manufactured No

220 Each

50.0000

1

4

D2673-34

End Plate

**

CC 17-1-24

Location

Loc Qty

Loc Code

WA003

50

145993

24

148718

26

D2850-2

Manufactured No

150 Each

9.0000

1

4

D2850-2

End Cap

**

CC 17-1-24

Location

Loc Qty

Loc Code

WA003

9

119501

5

141036

4

Picklist Print

Wednesday, August 24, 2016 12:01:58 PM

Page 4

Work Order ID: 150478

150478

Parent Item: D350-591-122

D350-591-122

Parent Item Name: Helix Access-Step™ RH - High Gear, Short Step, Float Compatible

Start Date: 8/29/2016

Required Date: 9/9/2016

Start Qty: 4.00

Required Qty: 4.00

MS20600-AD4W3

Purchased

No

Each

480.0000

64

MS20600-AD4W3

Cherry Rivet

Location

Loc Qty

Loc Code

GA	150	
122151	2	
m129795	148	
ST308	106	
m134167	106	
WA003	224	
m130018	84	
m135297	140	

M 135603
X 64

MS21042L3

Purchased

No

290

Each

1,576.000

2

8

MS21042L3

Nut

Location

Loc Qty

Loc Code

FP001	14	
m133790	14	
GA	531	
m134360	112	
m135135	419	
ST303	1031	
m134039	12	
m135056	7	
m135135	412	
m135407	600	

136044

DAS
27
9-89

DAS
6
9-89
JAN 11 2017

DAS
28
9-89

Picklist Print

Wednesday, August 24, 2016 12:01:58 PM

Page 5

Work Order ID: 150478

150478

Parent Item: D350-591-122

D350-591-122

Parent Item Name: Hen-Access-Step™ RH - High Gear, Short Step, Float Compatible

Start Date: 8/29/2016

Required Date: 9/9/2016

Start Qty: 4.00

Required Qty: 4.00

MS21042L4

Purchased

No

290

Each

2,179.000

3

12

MS21042L4

Nut

**

JAN 11 2017

DAS 27 9-89

DAS 27 9-89

Location

Loc Qty

Loc Code

FP001

51

m133363

51

GA

424

m133769

116

m135058

308

ST3003

25

m134955

25

ST303

1679

m133769

12

m134055

24

m135297

643

m135470

1000

135979

NAS1149D0363J

Purchased

No

290

Each

1,481.000

4

16

NAS1149D0363J

Washer

**

JAN 11 2017

DAS 27 9-89

DAS 27 9-89

Location

Loc Qty

Loc Code

GA

352

m134055

352

ST263

1129

m134955

129

m135297

1000

135864 X 10

134318 X 6

Picklist Print

Wednesday, August 24, 2016 12:01:58 PM

Page 6

Work Order ID: 150478

150478

Parent Item: D350-591-122

D350-591-122

Parent Item Name: Heli Access Stop™ RH High Gear, Short Stop, Float Compatible

Start Date: 8/29/2016

Required Date: 9/9/2016

Start Qty: 4.00

Required Qty: 4.00

NAS1149D0463J

Purchased

No

290

Each

2,510.000

6

24

NAS1149D0463J

Washer

**

JAN 11 2017

DAS
27
9-89

DAS
28
9-89

Location

Loc Qty

Loc Code

GA

240

M132035

15

M134508

32

M135056

193

ST260a

1000

M135407

1000

ST263

1258

M134039

24

M135390

1234

ST2663

12

M134039

12

D2732-030

Manufactured

No

290

Each

143.0000

2

8

D2732-030

Rubber Cushion - 3"

**

JAN 11 2017

DAS
27
9-89

DAS
28
9-89

Location

Loc Qty

Loc Code

FG

40

146999

40

ST410

103

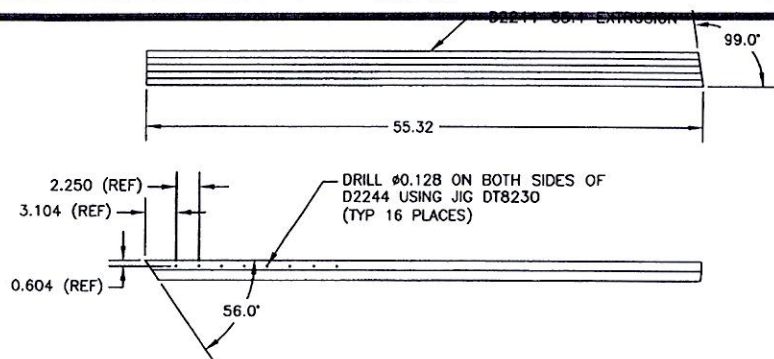
147721

4

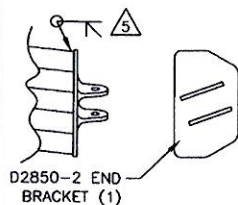
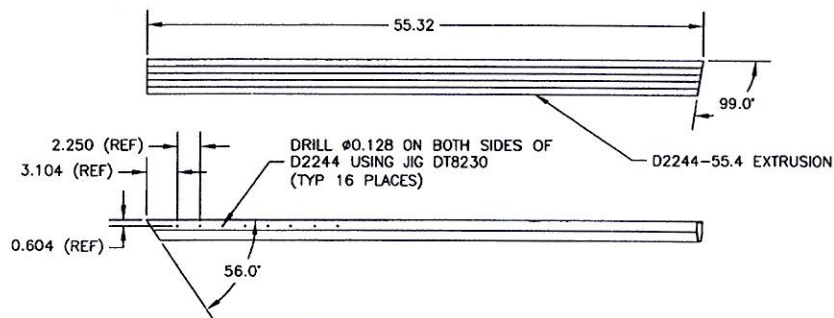
149044

99

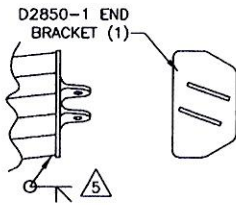
D2351-2 CUTTING/DRILLING DETAIL
RIGHT STEP



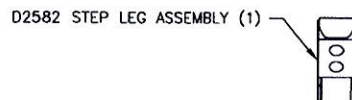
D2351-1 CUTTING/DRILLING DETAIL
LEFT STEP



DETAIL A
SCALE: 1:4

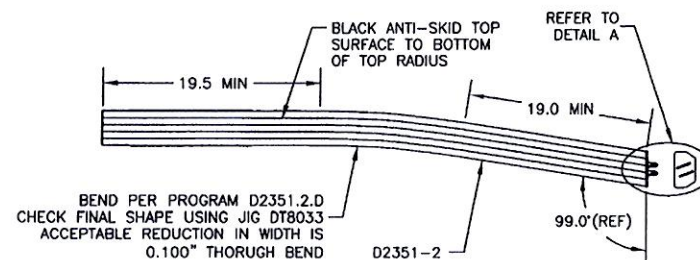


DETAIL B
SCALE: 1:4

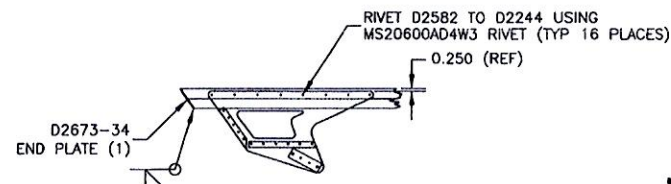
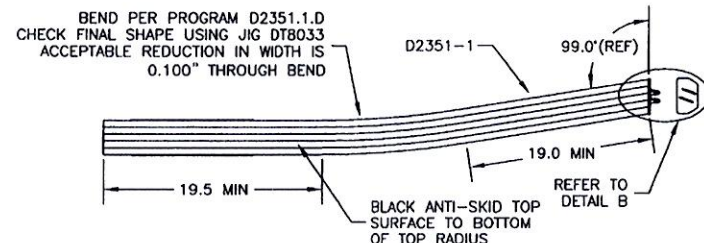


- GENERAL NOTES
- 1) WELD PER DART QSI 004
 - 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GLOSS WHITE (4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT PER DART QSI 005 4.4
 - 3) ALL DIMENSIONS ARE IN INCHES
 - 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- CHAMFER D2244 EXTRUSION 0.075"x45" BEFORE WELDING D2850-1 OR D2850-2 IN PLACE. DO NOT GRIND FLUSH.

D2351-042 BENDING/ASSEMBLY DETAIL
RIGHT STEP



D2351-041 BENDING/ASSEMBLY DETAIL
LEFT STEP



RELEASED
05.11.28

UNDER REVIEW

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DESIGN KE	DRAWN BY PH	DART	DART AEROSPACE LTD. HARRISBURG, ONTARIO, CANADA
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D2351	REV. E SHEET 2 OF 2
DATE 05.11.14	TITLE HIGH FLOAT STEP ASSEMBLY	SCALE 1:12	

Work Order ID: 150478

Parent Item: D350-591-122

Parent Item Name: Heli-Access-Step™ RH - High Gear, Short Step, Float Compatible

150478
D350-591-122

Start Date: 8/29/2016

Required Date: 9/9/2016

Start Qty: 4.00

Required Qty: 4.00

AN4-16A

Purchased

No

290

Each

205.0000

8

AN4-16A

Bolt

**

Location

Loc Qty

Loc Code

FG

5

121541

5

ST343

200

M135127

2

M135297

98

M135470

100

JAN 19 2017

35979

DAS
27
9-89

DAS
6
9-89

DAS
28
9-89

Work Order Summary

Tuesday, January 31, 2017 10:18:27 AM

Page 1 of 3

Criteria : Work Order ID: 150478 Item ID: D350-591-122 Product Family LARGE FAB
Work Order Start Dates 1/3/2017 to 1/3/2017 11:59:59 PM Work Order Required Dates 1/31/2017 to
1/31/2017 11:59:59 PM
All References
Work Order Status Released

Work Order ID	150478	Required Qty	4.0000	Status Code	Released
Item ID	D350-591-122	Accepted Qty	0.0000	Scrap Qty	0.0000
Item Name	Heli-Access-Step™ RH - High Gear, Short Step, Float Compatible				
Current Acct Value	\$393.926				
Start Date	1/3/2017	Required Date	1/31/2017	Completed Date	
Standard	** Actual **		** Acct. Value **	** Variance **	** Variance % **
Direct Costs	Total	Each	Each	Each	Each
Material	\$220.093	\$0.000	\$58.312	\$58.312	100.00%
Labor	\$643.098	\$0.000	\$98.981	\$98.981	100.00%
Outplant	\$0.000	\$0.000	\$0.000	\$0.000	0.00%
Variable Burden	\$0.000	\$0.000	\$0.000	\$0.000	0.00%
Fixed Burden	\$1,903.791	\$0.000	\$236.633	\$236.633	100.00%
Material Burden	\$0.000	\$0.000	\$0.000	\$0.000	0.00%
** Total **	\$2,766.982	\$0.000	\$393.926	\$393.926	

Item ID/Item Name	Required Qty	Issue Code	Issue Date	Issued Qty	Cost Amount
AN3-37A Bolt	8.0000		1/11/2017	8.0000	\$4.190
AN4-13A Bolt	12.0000		1/11/2017	12.0000	\$2.160
AN4-16A Bolt	8.0000		1/11/2017	8.0000	\$1.600
D2230-1 Mounting Lug	4.0000		1/11/2017	4.0000	\$51.330
D2230-3 Mounting Lug	4.0000		1/11/2017	4.0000	\$43.931
D2244-116 Step Extrusion	2.0000		1/11/2017	2.0000	\$54.607
D2582 Hi-Skid Step Leg Assembly	4.0000		1/26/2017	4.0000	\$394.837
D2673-34 End Plate	4.0000		1/26/2017	4.0000	\$13.910
D2732-030 Rubber Cushion - 3"	8.0000		1/26/2017	8.0000	\$5.323
D2850-2 End Cap	4.0000		1/24/2017	4.0000	\$246.519

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong		
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions		
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance		
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect		
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing		
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved		
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing		
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish		
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread		
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence		
Past Expiry Date ☐	☐ Manufacturing Process	OTHER : _____					
Misidentified ☐	☐ Past Due						

MS20600-AD4W3

Cherry Rivet

64.0000

1/26/2017

64.0000

\$10.912

MS21042L3

Nut

8.0000

1/11/2017

8.0000

\$1.120

MS21042L4

Nut

12.0000

1/11/2017

12.0000

\$1.978

NAS1149D0363J

Washer

16.0000

1/11/2017

16.0000

\$0.320

NAS1149D0463J

Washer

24.0000

1/11/2017

24.0000

\$0.720

Total Matl Amts:

\$833.457

Work Center CNC Bend 1

Employee ID	Rout Seq ID	Labor Date	Setup Hours	Actual Setup Hours	Labor Hours	Actual Labor Hours	Nbr of WOs	Setup Amount	Labor Amount	Fix Burd Amount	Var Burd Amount	Total Amounts
PAQU03												
1/13/2017												
130			0.70	0.70	0.00	0.00	1.00	\$15.293	\$0.000	\$39.979	\$0.000	\$55.273
1/16/2017												
130			0.00	0.00	0.69	0.69	1.00	\$0.000	\$14.967	\$39.126	\$0.000	\$54.093
Total:			0.70	0.70	0.69	0.69	2.00	\$15.293	\$14.967	\$79.105	\$0.000	\$109.365

Work Center DC

Employee ID	Rout Seq ID	Labor Date	Setup Hours	Actual Setup Hours	Labor Hours	Actual Labor Hours	Nbr of WOs	Setup Amount	Labor Amount	Fix Burd Amount	Var Burd Amount	Total Amounts
CRUI01												
1/26/2017												
100			0.00	0.00	0.00	0.00	1.00	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000
Total:			0.00	0.00	0.00	0.00	1.00	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000

Work Center HandFinish

Employee ID	Rout Seq ID	Labor Date	Setup Hours	Actual Setup Hours	Labor Hours	Actual Labor Hours	Nbr of WOs	Setup Amount	Labor Amount	Fix Burd Amount	Var Burd Amount	Total Amounts
BOUD01												
1/25/2017												
180			0.00	0.00	1.48	0.30	5.00	\$0.000	\$5.916	\$17.910	\$0.000	\$23.825
1/26/2017												
250			0.00	0.00	0.57	0.14	4.00	\$0.000	\$2.863	\$8.666	\$0.000	\$11.529
LAUG01												

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coor. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause				FAULT CATEGORY			
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong		
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions		
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance		
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect		
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing		
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved		
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing		
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish		
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread		
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence		
Past Expiry Date ☐	☐ Manufacturing Process	OTHER : _____					
Misidentified ☐	☐ Past Due						

1/27/2017												
270			0.00	0.00	2.07	2.07	1.00	\$0.000	\$41.384	\$125.290	\$0.000	\$166.674
Total:			0.00	0.00	4.12	2.51	10.00	\$0.000	\$50.162	\$151.866	\$0.000	\$202.028

Work Center Large Fab

Employee ID	Rout Seq ID	Labor Date	Setup Hours	Actual Setup Hours	Labor Hours	Actual Labor Hours	Nbr of WOs	Setup Amount	Labor Amount	Fix Burd Amount	Var Burd Amount	Total Amounts
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CRUI01

1/20/2017												
150			0.00	0.00	2.19	2.19	1.00	\$0.000	\$49.967	\$161.017	\$0.000	\$210.984
1/24/2017												
150			0.00	0.00	0.53	0.53	1.00	\$0.000	\$12.154	\$39.166	\$0.000	\$51.320
150			0.00	0.00	3.12	3.12	1.00	\$0.000	\$71.205	\$229.456	\$0.000	\$300.661
1/26/2017												
110			0.00	0.00	1.75	1.75	1.00	\$0.000	\$39.978	\$128.828	\$0.000	\$168.807
110			0.00	0.00	0.62	0.62	1.00	\$0.000	\$14.055	\$45.290	\$0.000	\$59.345

GAUT02

1/11/2017												
110			0.00	0.00	1.44	1.44	1.00	\$0.000	\$32.742	\$105.511	\$0.000	\$138.254
1/12/2017												
110			0.00	0.00	2.10	2.10	1.00	\$0.000	\$47.752	\$153.879	\$0.000	\$201.631
1/23/2017												
150			0.00	0.00	1.28	1.28	1.00	\$0.000	\$29.096	\$93.761	\$0.000	\$122.857
1/25/2017												
220			0.00	0.00	0.32	0.32	1.00	\$0.000	\$7.204	\$23.214	\$0.000	\$30.418
1/26/2017												
220			0.00	0.00	1.26	1.26	1.00	\$0.000	\$28.633	\$92.270	\$0.000	\$120.903
220			0.00	0.00	1.74	1.74	1.00	\$0.000	\$39.548	\$127.440	\$0.000	\$166.988
Total:			0.00	0.00	16.34	16.34	11.00	\$0.000	\$372.334	\$1,199.833	\$0.000	\$1,572.167

Work Center Powdercoat

Employee ID	Rout Seq ID	Labor Date	Setup Hours	Actual Setup Hours	Labor Hours	Actual Labor Hours	Nbr of WOs	Setup Amount	Labor Amount	Fix Burd Amount	Var Burd Amount	Total Amounts
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ROQU01

1/27/2017												
260			0.00	0.00	0.62	0.62	1.00	\$0.000	\$12.406	\$37.559	\$0.000	\$49.965
Total:			0.00	0.00	0.62	0.62	1.00	\$0.000	\$12.406	\$37.559	\$0.000	\$49.965

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By		
							Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		

Root Cause				FAULT CATEGORY			
☐ Environment	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong		
☐ Design	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions		
☐ Doc/Data	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance		
☐ Equip/Tooling	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect		
☐ Handling/Pre	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing		
☐ Material	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved		
☐ Internal Transport	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing		
☐ Tribal Knowledge	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish		
☐ LOA	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread		
☐ Substation	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence		
☐ Past Expiry Date	☐ Manufacturing Process	OTHER : _____					
☐ Misidentified	☐ Past Due						

5.0 PARTS LIST

Qty -117A	Qty -119	Qty -133	Part Number	Description
X			D350-591-117A	<i>Hel-Access-Step</i> ™, Pre-Flight Step
	X		D350-591-119	<i>Hel-Access-Step</i> ™, Long Step – Low Skid
		X	D350-591-133	<i>Hel-Access-Step</i> ™, Aft Maintenance Step
	1		D2355	STEP ASSEMBLY (LOW-LONG)
		1	D2946-041	STEP ASSEMBLY (MAINTENANCE)
2	2		D2171	CLAMP
2	2		D2182B035	CUSHION
		4	D2230-1	MOUNTING LUG
		4	D2230-3	MOUNTING LUG
4	4		D2274	RADIUS BLOCK
1			D2362-041	SUPPORT BRACKET
	1		D2362-3	SUPPORT BRACKET
		1	D2945	MOUNTING PLATE
1	1		D3595-200-300	CUSHION
		8	D2732-030	CUSHION
	2		AN3-37A	BOLT
		2	AN4-7A	BOLT
		4	AN4-11A	BOLT
		8	AN4-16A	BOLT
	4		AN4-21A	BOLT
4	1		AN4-22A	BOLT
	4		NAS1149D0363J	WASHER (AN960JD10)
4	6	14	NAS1149D0463J	WASHER (AN960JD416)
	2		MS21042L3	NUT
4	5	14	MS21042L4	NUT

Qty -121	Qty -122	Qty -123	Qty -124	Part Number	Description
X				D350-591-121	<i>Hel-Access-Step</i> ™, Short Step – High Skid, LH
	X			D350-591-122	<i>Hel-Access-Step</i> ™, Short Step – High Skid, RH
		X		D350-591-123	<i>Hel-Access-Step</i> ™, Short Step – Low Skid, LH
			X	D350-591-124	<i>Hel-Access-Step</i> ™, Short Step – Low Skid, RH
1				D2351-041	STEP ASSEMBLY (HIGH-SHORT, LH)
	1			D2351-042	STEP ASSEMBLY (HIGH-SHORT, RH)
		1		D2356-041	STEP ASSEMBLY (LOW-SHORT, LH)
			1	D2356-042	STEP ASSEMBLY (LOW-SHORT, RH)
1	1	1	1	D2230-1	MOUNTING LUG
1	1	1	1	D2230-3	MOUNTING LUG
2	2	2	2	D2732-030	CUSHION
2	2	2	2	AN3-37A	BOLT
1	1	1	1	AN4-13A	BOLT
2	2	2	2	AN4-16A	BOLT
4	4	4	4	NAS1149D0363J	WASHER (AN960JD10)
6	6	6	6	NAS1149D0463J	WASHER (AN960JD416)
2	2	2	2	MS21042L3	NUT
3	3	3	3	MS21042L4	NUT